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THE OCCURRENCE OF THE "L. E." CELL IN CLOTTED BLOOD*

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The inclusion of large homogeneous basophilic masses in the cytoplasm of granulocytes ("L. E." cells) has been described in heparinized and oxalated blood and bone marrow in patients with acute disseminated lupus erythematosus (1, 2). These cells have not been found in direct smears of either bone marrow or peripheral blood. The phenomenon has not been found to occur in the chronic forms of lupus erythematosus or allied diseases (3).

To eliminate the possibility that the "L. E." cell formation was dependent on the presence of anti-coagulant, we felt that the clotted blood specimen should be examined. Venous blood from a patient with acute disseminated lupus erythematosus was allowed to clot and after 30 to 60 minutes the clot was gently broken up and centrifuged in a Wintrobe hematocrit tube. Smears were made from the scanty buffy coat layer. The smears obtained in this fashion were relatively acellular, but the "L. E." bodies were not difficult to find. They were not present in the clotted specimen of normal blood.

A comparison was made of the concentration of "L. E." cells in oxalated and clotted blood specimens from this patient while she was under treatment with ACTH. Twelve hours after the beginning of treatment with 25 mg. of ACTH daily, "L. E." cells were present in a concentration of one per 1000 leukocytes in the oxalated blood. On the third day of treatment, no "L. E." cells were found in the oxalated specimen, nor could any be found during the following six days. However, "L. E." cells were found in the clotted specimen throughout this period of observation in a concentration of two to eighteen per 1000 leukocytes.

The effect of Compound E on the formation of the "L. E." cell was investigated by adding an excess of Compound E to the patient's plasma until saturation was attained, and then incubating this plasma with an equal quantity of normal bone marrow. (It has been shown that "L. E." cells are produced when plasma from a patient with acute disseminated lupus erythematosus is mixed with normal bone marrow (4). This maneuver did not prevent the formation of the "L. E." cell.

The fact that the "L. E." cell could still be demonstrated in the clotted blood specimen after it had disappeared from the oxalated blood specimen, suggests that use might be made of this technic in searching for "L. E." cells to support a diagnosis of acute disseminated lupus erythematosus. The presence of the "L. E." cell in the clotted specimen eliminates the possibility that this phenomenon is dependent on the use of anti-coagulant.

REFERENCES

1. HARGRAVES, M. M., RICHMOND, H., AND MORTON, R.: Presentation of two bone marrow elements: the "tart" cell and the "L. E." cell. Proc. Staff Meet., Mayo Clin. **23:** 25, 1948.

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2. SUNDBERG, R. D., AND LICK, N. B.: "L. E." cells in the blood in acute disseminated Lupus Erythematosus. J. Invest. Dermat. **12:** 83, 1949.
3. HASERICK, J. R., AND SUNDBERG, R. D.: The bone marrow as a diagnostic aid in acute disseminated Lupus Erythematosus. J. Invest. Dermat. **11:** 209, 1948.
4. HARGRAVES, M. M., RICHMOND, H., AND MORTON, R.: Production in vitro of the "L. E." cell phenomenon: Use of normal bone marrow elements and blood plasma from patients with acute disseminated Lupus Erythematosus. Proc. Staff Meet., Mayo Clin. **24:** 234, 1949.